

What is claimed is:

1. A method, comprising the steps of:
- 5        ✓ receiving voice traffic at a Voice over Internet Protocol (VoIP) gateway;  
             determining whether a destination is serviced by a second VoIP gateway;  
             ✓multiplexing said voice traffic at said VoIP gateway; and  
             transporting said multiplexed voice traffic to said second VoIP gateway utilizing a  
plurality of transport packets, responsive to an affirmative determination that said  
10        destination is serviced by said second VoIP gateway.
2. The method of claim 1, wherein said voice traffic is received within the payload  
portions of User Datagram Protocol (UDP)/Internet Protocol (IP) packets.
- 15        3. The method of claim 1, wherein said transport packets are User Datagram Protocol  
(UDP)/Internet Protocol (IP) packets.
4. The method of claim 3 wherein said UDP/IP packets transport at least one modified  
Real-time Transport Packet (RTP) packet.
- 20        5. The method of claim 4, wherein said RTP packet comprise at least one of:  
             a Payload field for containing a voice traffic;  
             a Call Identifier field for identifying a caller;  
             a Length Indicator field for identifying the size of the payload field; and  
25        a Header Error Check field for identifying errors in the Call Identifier field and the  
Length Indicator field.
6. The method of claim 5, wherein said Header Error Check field performs one bit error  
correction.

7. The method of claim 5, further comprising the step of communicating messages between said VoIP gateway and said second VoIP gateway.

8. The method of claim 7, wherein said first VoIP gateway communicates an Open Logical Channel message to said second VoIP gateway including said VoIP gateway's port number and Call Identifier of the calling party.

9. The method of claim 8, wherein in response to said Open Logical Channel message said second VoIP gateway communicates an Open Logical Channel message including said second VoIP gateway's port number and Call Identifier for the called party.

10. The method of claim 7, wherein in response to a caller terminating a call said VoIP gateway communicates a Close Logical Channel message including said VoIP gateway's port number and said Call Identifier of the calling party to said second VoIP gateway.

11. The method of claim 10, wherein in response to said Close Logical Channel message said second VoIP gateway communicates a Close Logical Channel ACK message including said second VoIP gateway's port number and said Call Identifier of the called party.

12. The method of claim 1, wherein said step of determining is made utilizing a gatekeeper.

13. In a communication system for transporting voice traffic over an Internet Protocol (IP) network to a destination, apparatus comprising:  
a first Voice over Internet Protocol (VoIP) gateway, for receiving voice traffic;  
said first VoIP gateway determining whether said destination is serviced by a second VoIP gateway;  
said first VoIP gateway multiplexing said voice traffic;

said first VoIP gateway transporting said multiplexed voice traffic to said second VoIP gateway utilizing a plurality of transport packets, responsive to an affirmative determination that said destination is serviced by said second VoIP gateway.

5     14.     The apparatus of claim 13, wherein said voice traffic is received within the payload portions of User Datagram Protocol (UDP)/Internet Protocol (IP) packets.

15.     The apparatus of claim 13, wherein said transport packets are User Datagram Protocol (UDP)/Internet Protocol (IP) packets.

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16.     The method of claim 13, wherein said UDP/IP packets transport at least one modified Real-time Transport Protocol (RTP) packet.

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17.     The apparatus of claim 16, wherein said RTP packets comprise at least one of:  
a Payload field for containing a voice traffic;  
a Call Identifier field for identifying a caller;  
a Length Indicator field for identifying the size of the payload field; and  
a Header Error Check field for identifying errors in the Call Identifier field and the Length Indicator field.

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18.     The apparatus of claim 17, wherein said Header Error Check field performs one bit error correction.

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19.     The apparatus of claim 18, further comprising the step of communicating messages between said VoIP gateway and said second VoIP gateway.

20.     The apparatus of claim 19, wherein said first VoIP gateway communicates an Open Logical Channel message to said second VoIP gateway including said VoIP gateway's port number and Call Identifier of the calling party.

21. The apparatus of claim 20, wherein in response to said Open Logical Channel message said second VoIP gateway communicates an Open Logical Channel message including said second VoIP gateway's port number and Call Identifier for the called party.

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22. The apparatus of claim 21, wherein in response to a caller terminating a call said VoIP gateway communicates a Close Logical Channel message including said VoIP gateway's port number and said Call Identifier of the calling party to said second VoIP gateway.

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23. The apparatus of claim 22, wherein in response to said Close Logical Channel message said second VoIP gateway communicates a Close Logical Channel ACK message including said second VoIP gateway's port number and said Call Identifier of the called party.

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24. The apparatus of claim 13, wherein a gatekeeper is used to determine whether said second VoIP gatekeeper services said destination.

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25. A Voice over Internet Protocol (VoIP) gateway for transporting voice traffic over an Internet Protocol (IP) network to a destination, comprising:

a processor; and

a storage device coupled to said processor and including instructions for controlling said processor, said processor operative with said instructions to:

receive voice traffic at said VoIP gateway;

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determine whether said destination is serviced by a second VoIP gateway;

multiplex said voice traffic at said VoIP gateway; and

transport said multiplexed voice traffic to said second VoIP gateway utilizing a plurality of transport packets, responsive to an affirmative determination that said destination is serviced by said second VoIP gateway.

26. A Voice over Internet Protocol (VoIP) gateway for transporting voice traffic over an Internet Protocol (IP) network to a destination as in claim 25, wherein a gatekeeper is used to determine whether said destination is serviced by said second VoIP gateway.

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27. A Voice over Internet Protocol (VoIP) gateway, for transporting voice over an Internet Protocol (IP) network, to a destination, comprising:

means for receiving voice traffic at said VoIP gateway;

means for determining whether said destination is serviced by a second VoIP

10 gateway;

means for multiplexing said voice traffic at said VoIP gateway; and

means for transporting said multiplexed voice traffic to said second VoIP gateway utilizing a plurality of transport packets, responsive to an affirmative determination that said destination is serviced by said second VoIP gateway.

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28. The VoIP gateway of claim 27, wherein said voice traffic is received within the payload portions of User Datagram Protocol (UDP)/Internet Protocol (IP) packets.

29. The VoIP gateway of claim 27, wherein said transport packets are User Datagram Protocol (UDP) packets.

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30. The VoIP gateway of claim 28, wherein said UDP/IP packets transport at least one modified Real-time Transport Protocol (RTP) packet.

25 31. The VoIP gateway of claim 30, wherein said RTP packets comprise at least one of:  
a Payload field for containing a voice traffic;  
a Call Identifier field for identifying a caller;  
a Length Indicator field for identifying the size of the payload field; and

a Header Error Check field for identifying errors in the Call Identifier field and the Length Indicator field.

32. The VoIP gateway of claim 31, wherein said Header Error Check field performs one  
5 bit error correction.

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